The boundaries of autism: Sub group research and comparisons between children with language impairment and obsessive compulsive disorder.

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Early Taxonomic studies – 1970s

“Childhood Psychoses” sample from eastern states of Australia N = 146, CA X, 9

Search for taxa or groups.

Based on Rimland questionnaire data provided by parents

Using SNOB program to search for most parsimoniously defined groups
Results of taxonomic analyses

Two groups identified:
a) severe symptoms, low functioning, early onset (Kanner’s syndrome)

b) higher functioning, less severe impairments

Severity of social and cognitive impairment underlying group classification.
Search for sub groups -- 1990s

Data from developmental history and current behaviours obtained via parent interview and child observation; + theory of mind tasks.

N = 135 (Australia and Britain) including:
- High functioning autism, (48)
- Asperger syndrome, (69)
- Pervasive Developmental Disorder(7) and ‘other’(11)

CA 3-21, mean 10 years,

Mean IQ = average range
Results --- Cluster analyses (Numerical Taxonomy updated)

Three clusters
A – Autism (a more self isolated group, <TOM)
B – Asperger-like (higher levels of social and communicative development)
C – milder PDD (fewer problems across all domains)

Overlaps especially between A&B, and B&C
Milder cases in B&C, more likely to show joint attention skills
Severity of impairment = primary differentiator
No cluster group differences on history of language delay or deviance, nor on developmental history
(NB high functioning groups)
No neuropsychological differences in sub-sample of AS and HFA (except higher IQ in AS)
Clinical implications
Differences between children with autism and other ‘related’ disorders

a) Children on the borderlands of autism: differential characteristics in social, imaginative, communicative and repetitive behaviours

b) Repetitive behaviour in children with High Functioning Autism and Obsessive Compulsive Disorder
   Zandt, Prior & Kyrios (2006)
Young children with language disorder
cf. children with ASD

Overlapping symptoms:
- abnormalities in verbal and non-verbal communication,
- restricted or peculiar interests,
- Social and friendship difficulties, social withdrawal

**Samples**
- ASD N = 22 (2 AS)
- Lang. Dis. (various) N = 15
- Age 4-7 years
Measures

* Questionnaires and rating scales: parents and teachers, across all domains of behaviour
  - Bishop CCC, Autism Screening Qu., Repetitive Behaviours Questionnaire
* Psychometric testing-- WPPSI-R or WISC 3-R
  (mean IQ of both samples = low average)
* Structured play session including:
  - joint attention, behavioural regulation, functional and pretend play, repetitive behaviours
Results

Parent and teacher Qus. → more repetitive behaviours in ASD
Teacher ratings → deficits in pragmatic language for both groups, ASD poorer than CD.
Observational session → LD children sig. more functional play, and joint attention skills cf. ASD.
No other significant differences on other measures.
Many measured variables did not discriminate clinical groups
Cluster analyses → 3 groups:

higher functioning (showed discrepancy between VIQ and (higher) PIQ- more typical of LD children - i.e. LD like group (but 50% LD and 50% ASD in this group),

lowest functioning (low IQ, high repetitive beh., low prag. lang, poor social interaction- most autistic)

highest functioning (higher VIQ cf other groups (5ASD = 2 LD)

No observation/play variables contributed to group differentiation

No significant correspondence between clinical dx and group
Summary

- Joint attention skills an important differentiator between LD and ASD
- ASD more repetitive, stereotyped behaviours and interests (Parent + Teacher reports)
- Social behaviours not discriminative

Note influence of method variables
Repetitive behaviours: ASD and OCD study

- Repetitive behaviours core to both conditions
- Etiology in OCD assumed to be anxiety
- Etiology in autism uncertain (may be anxiety, may be to provide more certainty and structure in a mysterious world; may have obsessive and compulsive qualities as in OCD, perhaps functions as a barrier against unwanted intrusion)
One recent comparative study of adults with these disorders

Russell et al (2005) compared AS and HFA and OCD adults → similar frequencies of behaviours,
OCD more severe, and more repeated rituals and somatic obsessions.

Obsessions and compulsions common in ASD individuals
Samples and measures

ASD  N=19,  X CA 11

OCD N= 17 X CA 12

Recruited from clinics around Melbourne. Diagnoses via DSM IV criteria

Normal comparisons  N = 18,  X CA 12

Overall CA range 7-16 yrs. for all groups
All IQs above 70
Measures

Repetitive Behaviour Questionnaire, (RBQ) (Turner) →
parent ratings:- scales for language, sameness, repetitive movements, + Total score.

Children’s Yale Brown Obsessive Compulsive Scale
(symptom checklist for obs and comp.) completed by children or parents or both (68% by both in ASD group)

WISC 3 (4 tests) and Executive Functioning tests
Results

Note - clinical groups always sig. more repetitive behaviour than controls

Repetitive Beh. Questionnaire
floor effect for controls;
no differences between OCD and ASD;
more sameness in younger children with OCD
Types of Repetitive Behaviour

- Sameness
- Movements
- Language
- Total

Bars for ASD, OCD, TD:
- Sameness
- Movements
- Language
- Total

ASD: [Bar Chart Data]
OCD: [Bar Chart Data]
TD: [Bar Chart Data]
Childrens Yale Brown Obsessive Comp. Scale

Floor effect for controls;

OCD - more obs and comp cf ASD;

more obs in older OCDs, and more sameness in younger OCDs

Obsessions and compulsions related (R=.5 ASD; R=.7 OCD);

More repetitive behaviours in ASD

Obs and Comp behaviours less sophisticated in ASD
Summary

Similarities in content of repetitive behaviour in ASD and OCD

Differential diagnosis could be difficult in high functioning cases where social and communication deficits not so severe

Parents reported repetitive behaviours of their own

Age variations in OCD but not in ASD

All types of these behaviours significantly more prevalent in OCD and ASD than in normal children.
Repetitive Behaviour and Executive Functioning

Executive Function tests: few group differences in performance,
Parent reported EF impairment associated with more repetitive behaviour ---- in both clinical groups on BRIEF scales (behaviour rating inventory of executive functioning (everyday life))
Neuropsychological data

Children with ASD and OCD similar to typically developing children of equivalent intelligence on most EF tasks.

ASD showed impairments on verbal fluency and concept generation (generation of multiple responses) (with control for VIQ).

Children with OCD – some impairments in inhibition only --- this not seen in ASD.
Parents of both clinical groups reported more EF problems cf. typically developing children but relationships between psychometric and questionnaire measures of rep. behaviour = weak.

Greater EF problems related to repetitive behaviour in ASD and in typical groups (not OCD).

Influence of source and method variables on EF result?
Possible different underlying processes in repetitive behaviour in OCD and ASD?
Summary

Support for spectrum concept (ASD) within samples of children diagnosed with autism. Order and certainty implied by official diagnostic categorical systems is a chimera. Importance of joint attention as early marker for ASD. ASD Symptoms and behaviours overlap with other disorders including OCD.
THE END